

Process Analyzer

Biotronics Technologies, Inc., Waukesha, Wisconsin has introduced to the market the first of a planned family of ChemScan® products for use in environmental applications. Intended for initial marketing to the water and wastewater treatment industries, the product is the Model UV-6100 Process Analyzer, which operates simply and cleanly by analyzing the light absorbance characteristics of a sample. The UV-6100 eliminates tedious manual sampling, replaces independent "grab sampling" with on-line data collection, and gives an operator the information needed to control a process more efficiently, says Biotronics.

Below is a pipeline of the City of Tampa (Florida) wastewater treatment facility, which is testing the analyz-



er for Biotronics. A ChemScan analyzer (**right**) monitors the water flowing through the pipes on a real time basis. The ChemScan UV-6100 is a spectrometry system originally developed for NASA under a Small Business Innovation Research contract, then refined for the commercial market. Operating in the ultraviolet (UV) wavelength range, the UV-6100 simultaneously detects hundreds of individual wavelengths absorbed by chemical substances in a process solution, then it quantifies the information.

The spectral data is processed by the analyzer and compared with calibration files stored in the system's memory, in order to calculate the concentrations of chemical substances that cause absorbance of UV light in specific patterns. The comparison permits an accurate qualitative and quantitative analysis of the substances being monitored.

Applications include detection of biological nutrients (including nitrates, nitrites and phosphates); dissolved iron levels in raw water supplies; ion exchange breakthrough; chlorination/dechlorination residuals; softwater discharge profiles; heavy metals; and toxic substances. The information provided by the analyzer can be used to optimize feed rates, set retention times, determine aeration rates, assure regulatory compliance, prepare reports and control processes.

* ChemScan is a registered trademark of Biotronics Technologies, Inc.

